

53. (New) The carrier of claim 52 wherein pore size of the carrier is selected to enable potential modulators of the biomolecular interaction to pass in and out of the matrix.

54. (New) The carrier of claim 51 wherein the biological species of the biomolecular interaction can under naturing conditions associate with one another.

55. (New) The carrier of claim 54 wherein the association between the biological species under naturing conditions is selected from the group consisting of one or more of: ionic bonds, hydrogen bonds, van der Waal's interactions, hydrophobic interactions, dipole-dipole interactions, dipole-induced dipole interactions, and induced dipole-induced dipole interactions.

56. (New) The carrier of claim 54 wherein the carrier has a pore size that is selected to inhibit leaching out of the biomolecular interaction or biological species thereof.

57. (New) The carrier of claim 56 wherein pore size of the carrier is selected to enable potential modulators of the biomolecular interaction to pass in and out of the matrix.

58. (New) The carrier according to claim 50 wherein the carrier comprises a silica based glass.

59. (New) The carrier according to claim 50 wherein the material is selected from the group consisting of a silicon, titanium, vanadium cerium-based metal alkoxide, cerium-based metal alkoxide, alkylated metal alkoxide, an otherwise functionalized metal alkoxide, a corresponding metal chloride, silazane, polyglycerylsilicate, and other silicate precursors

60. (New) The carrier according to claim 50 derived by a sol-gel processing method.

61. (New) The carrier according to claim 60 wherein the biomolecular interaction is bioactive.